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MONTHLY REPORT

1 February 1958 - 28 February 1958

RESEARCH AND DEVELOPMENT BRANCH ENGINEERING DIVISION

RESEARCH AND DEVELOPMENT LABORATORY

1. PROJECTS AND ACTIVITIES

2001 - MECHANICAL LABORATORY PROJECTS

The following is a status report of Mechanical Laboratory assignments other than the support given to regularly assigned numbered projects:

- 2001-39 Scale Models 485 required by SEB, complete.
- 2001-40 Tiny-Tot Dist. Rings 45 required by R&D/EP, 75% complete.
- 2001 44 Whip Antenna for RS-16 7 required by R&D/EP, awaits discussion of prototype.
- 2001 47 LUF Calculators 15 required by 0&F, 10% complete.
- 2001_48 Tape Reels 10 required by SEB, 80% complete.
- 2001-50 Mounting Bracket (Dictet Recorder) 60 required by R&D/EP, complete.
- 2001-51 Crystal Holder Adaptors 200 required by SEB, 50% complete.
- 2001-52 Amplifier Case, 2 required by SPD, complete.
- 2007-17 Printed Circuit Board Finishing and Connector Moulds 60 required by SP/EA, 30% complete.

25X1A9a 2003-1 ANTENNA PATTERN RANGE Project Engineer:

Estimates for this facility were included in the management survey submitted to Headquarters during this period.

25X1A9a 2003-2 CRYSTAL VIDEO RECEIVING SYSTEM INVESTIGATION Project Engineer:

The transistor life tests are continuing. Results will be reported upon completion of the tests.

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2004 - COMMERCIAL EQUIPMENT EVALUATION

25X1A9a

2004-101 RS-11 Prototype Acceptance Tests

Project Engineer:

No requirement this period.

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2004-137 HRB Preamplifier Measurements

Project Engineer:

25X1A

A limited analysis of the dual-channel preamplifiers was performed to cover specified tests and measurements as established in consultation with members of ESO and SFD.

These units are VHF amplifiers powered from a 28 volt DC source and covering the frequency range 50 - 100 mc in one band. Channel output is in the form of a detected video signal. The results of these limited tests indicate that the tangential sensitivity and voltage gain of the units are satisfactory; however, the bandwidth tests reveal poor low frequency response. The regulating power transistors operated within their rated temperature. Current commitments are complete and the project will be closed out.

25X1A9a

2007-1 RADIATION DETECTION EQUIPMENT MAINTENANCE
Project Engineer:

All Radiological Survey Instruments on hand have been placed in an operating condition and calibrated. The monthly statement as to condition has been forwarded to the Medical Staff.

25X1A9a

2007-12 RS-6 RECTIFIER REPLACEMENT Project Engineer:

Laboratory commitments to this project are complete; however, the project will be held open pending results of an evaluation by OC-O&T.

25X1A9a

2007-13 TINY TOT KEYBOARD RELAY MOUNTING BOX Project Engineers:

Mechanical work is complete. Completion of this project is pending receipt of a shipment of relays. No activity during this period.

25X1A9a

2007-14 LOW NOISE TRANSISTORS
Project Engineer:

Inactive due to higher priority work.

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2508 - ETCHED ANTENNA INVESTIGATION
Project Engineer: None assigned

Awaits completion of priority work.

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2510 - AUDIO OSCILIATOR, IN-1X Project Engineer:

The revised prototype is being assembled.

25X1A9a

2512-3 HIGH FREQUENCY CONVERTER, CV-2
Project Engineer:

The development of a CV-2 type converter to cover the frequency range from 3 to 12 mcs in a single unit has been completed. The unit has been designated the CV-2A and submitted for fabrication. (See Project 2512-5) The objectives of this project have been accomplished; thus, it will be closed out and dropped from future reports.

25X1A9a

2512-5 FABRICATION OF CV-2A
Project Engineer:

Five CV-2A's have been fabricated and tested. One unit has been delivered, three are on hand, and the fifth unit awaits replacement of a defective capacitor.

25X1A9a

2514-2 MINIATURE TRANSMITTER (SIMILAR TO TA-1)
Project Engineer:

This project has been terminated due to parallel project requirements specified under project 2007-18.

25X1A9a

2514-3 TA-L FABRICATION Project Engineer:

Inactive during this period.

25X1A9a

2515 - TRANSMITTER ADAPTOR MODIFICATION (A-3)
Project Engineer:

CW operation of the TA-l Adaptor with the A-3 modulator attached, but switched to the CW mode, has revealed a reduction in RF output of approximately 1/2 watt. The reduced output is compared to the CW output obtained without the A-3 modulator attached and is now being studied. The instruction book is in the final stages of reproduction.



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TESTS COMPLETE - REPORT IN PROCESS

25X1A 2005-104 2005-109 2005-111 2007-12

PROJECTS IN PROCESS

2004-133 Tiny Tot Radiation Tests 2004-136 Hallamore Multicoupler 2037-4 RS-16A

2099-107 RS-13B Prototype Evaluation

PROJECTS SUSPENDED

25X1A2d1	2004-135	Project A&A
	2007-9	No requirement. Antenna Study
	1	Suspended temporarily because of higher priorities.
	2007-11	DZ Beacon Support
	·	No requirement.
	2515	TA-1 With Modulator

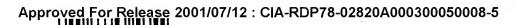
PROJECTS UNASSIGNED

2004-118 R-744/PRD Radio Receiver
Awaiting receipt of equipment.
2004-138 RT-4A Evaluation
Awaiting receipt of equipment.

25X1A9a

Chief, Research & Development Laboratory Acting

Temporarily suspended because of higher priorities.





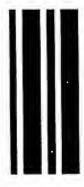




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DOCUMENT SEPARATOR SHEET

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NOT RECEASABLE TO FOREIGN NATIONALS

2127

SEARCH RECEIVING SYSTEM, CS-8 -

25X1A9a

Work has begun on all phases of the CS-8 development. The RF amplifier has been fully tested in breadboard form, and tests are under way on the logic control and IF circuit breadboard. The IF filters and fixed oscillator development is being done on a sub-contract basis.

2129

MINIATURE VIDEO AMPLIFIER, VA-5 -

25X1A9a

Ninety-five per cent of the material required for the VA-5 has been received by the contractor and mechanical fabrication is getting underway. The contractor hopes to begin shipping VA-5's as well as CW-1 adaptors by the middle of April. Fifty per cent of the CW adaptor materials have been received. All items are being procured under this contract are to be delivered by the end of May.

2130

CRYSTAL VIDEO RECEIVER, PRR-8 -

25X1A9a

This is a Signal Corps project for the development of a portable, transistorized crystal video system covering the range of 1 to 10.75 kmc. Agency funds were committed for procurement of one unit for our evaluation. The contractor has just started delivery of these units to the Signal Corps and our unit should be available in the near future.

2131

MINIATURE DATA RECORDER, CB-3 -

25X1A9a

The two contractors engaged in the parallel development of this equipment are now working to a schedule which outlines in graph form the approximate dates for completion of the remaining phases. Progress has been satisfactory; both companies are entering into the final hardware design and fabrication stage.

2132

SPECIAL RECEIVING EQUIPMENT, WR-1 -

25X1A9a

The study phase is almost complete and initial circuit design is underway. Mechanical design is progressing and considerable printed circuit layout work is being done.

2133

HIGH-SPEED FIELD STATION, AS-5 -

25X1A9a

A proposal has been requested from the contractor to modify the AS-5 system to receive transmissions from the RS-16A field set and to incorporate an error correction capability into the AS-5. Progress on this project is satisfactory.

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FREE POWER SOURCES -25X1A9a 2626 Tests have recently been conducted with solar cells which indicate that about an inch of new snow has little effect on the output of the cells. Greater depths of snow, i.e., more than 3 inches, render the cells almost useless. VARIABLE SPEED TAPE RECORDER AND ACCESSORIES 25X1A9a 2627 An informal report was submitted at the end of this reporting period outlining our requirements and the various equipments that are currently available to meet them. The recorder/ reproducer recommended in this report was the Ampex FR-1100. INVESTIGATION & MODIFICATIONS -25X1A 2629 25X1A9a No significant progress was made during this period. AUTOMATIC DIGITAL TRANSMISSION SYSTEM, AS-8 -25X1A9a 2638 The engineering tests originally scheduled for April 1958 will be conducted in June between the field station at 25X1A Washington, D.C., to the base station 25X1A (See Memo to the Files, "Trip Report 25X1A 25X1A dated 28 February.) 25X1A9a VHF COLLECTION RECEIVER -25X1A9a 2639 Specifications for the CR-2 Collection Receiver are now being written. This project will be conducted on an Expedited basis.

25X1A9a 2640

SIGNAL DELAY DEVICE -

A project status report has been forwarded to the Supplemental Programs Division relating the findings of a review of techniques and available equipment. It was concluded that the operational characteristics of available models will require the use of tape loops in this application. Some special development will be required to provide tape loop transports having a size, configuration, and power demand compatible with the companion storage recorders.

25X1A9a 2642

PHOTOGRAPHIC DATA RECORDING TECHNIQUES -

Internal study of optical recording techniques and their possible application to ELINT data collection continued during this period. The purpose of this effort is to develop

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25X1A5a1 B	Task Order 12	25X1A
	Work Orders Outstanding W.O. 2 Fabricate battery chargers \$3659.00	
	W.O. 3 Fabricate thermo-couple shunts 265.67	
	Dollar balance remaining 19850.33	
25X1A5a1 _C	Task Order 2	25X1A
	Work Orders Outstanding W.O. A Fabrication of a Crystal Video Demand System \$10723.14	
	Dollar balance remaining 24276.86	
25X1A5a1 _D	- Task Orders 1 and 3	25X1A
	Work Orders Outstanding, Task 1 W.O. 4 Video Recorder design and fabrication \$55581.51 W.O. 5 Interference generators 7942.08	
	Work Orders Outstanding, Task 3	
	W.O. 1 Fabrication of Parabolic dish antenna \$6142.12	
	W.O. 2 Discone Antenna Modification 5589.96	
	Dollar balance remaining, Task 3 \$23267.92	25X1A9a
		20/1/17/30

